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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/957,467	09/20/2001	Richard Roy Grisenthwaite	550-268	2581

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EXAMINER	
MAI, TAN V	

ART UNIT	PAPER NUMBER
2124	5

DATE MAILED: 05/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/957,467	Applicant(s) GRISENTHWAITE ET AL.	
	Examiner Tan V Mai	Art Unit 2124	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 December 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

1. The abstract of the disclosure is objected to because superfluous language and legal phraseology are used in this paragraph (i.e., "[t]he present invention relates" and "comprises"). Correction is required. See MPEP § 608.01(b).

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (c) he has abandoned the invention.
>
> (d) the invention was first patented or caused to be patented, or was the subject of an inventor's certificate, by the applicant or his legal representatives or assigns in a foreign country prior to the date of the application for patent in this country on an application for patent or inventor's certificate filed more than twelve months before the filing of the application in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000.

Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

> (f) he did not himself invent the subject matter sought to be patented.
>
> (g)(1) during the course of an interference conducted under section 135 or section 291, another inventor involved therein establishes, to the extent permitted in section 104, that before such person's invention thereof the invention was made by such other inventor and not abandoned, suppressed, or concealed, or (2) before such person's invention thereof, the invention was made in this country by another inventor who had not abandoned, suppressed, or concealed it. In determining priority of invention under this subsection, there shall be considered not only the respective dates of conception and reduction to practice of the invention, but also the reasonable diligence of one who was first to conceive and last to reduce to practice, from a time prior to conception by the other.

3. Claims 1-3, 5, 11 and 15 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Sazzad et al.

As per independent claim 1, Sazzad et al, e.g., see Figs. 8, 10 & 12, teach the claimed combination. For example, Fig. 8 shows a source register X (800) [having a plurality of j individual n-bit words], a processor (815) [having a plurality of j individual saturation circuits] and a destination register Y (810) [having a plurality of j individual k-bit words] , wherein 1 k n. It is noted that that "1 k n" feature is the same as the claimed "determining" step (lines 6-7).

As per dependent claim 2, Sazzad et al teach the claimed feature, e. g., see col. 2, lines 59-64.

As per dependent claim 3, "source register" X (800) and "destination register" Y (810) are considered the claimed Rm and Rd.

As per dependent claim 5, Sazzad et al teach the claimed "signed saturation" feature.

As per dependent claim 11, Sazzad et al teach the claimed "modes" feature, e.g., see col. 2, lines 44-58 "to implement the instruction and perform a saturation operation on the data value **or** values ..."

As per independent claim 15, due to the similarity of method claim 15 to appartus claim 1, it is rejected under a similar rationale.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.7

5. Claims 6, 14 & 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sazzad et al.

Sazzad et al have been discussed in paragraph 3 above.

As per dependent claim 6, the claim adds the "**unsigned**" saturation instruction / data values feature. Because "**unsigned**" feature is simple than the "signed" feature, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to design the claimed invention by modify Sazzad et al's "signed" feature.

As per dependent claim 14, the claim adds the "coupling logic" for providing a selected mode signal. The feature is obvious to a person having ordinary skill in the art.

As per dependent claims 16-17, the claims add "computer program" features. These features are obvious to a person having ordinary skill in the art.

6. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sazzad et al in view of Giacalone et al.

Sazzad et al have been discussed in paragraph 3 above. Claim 4 adds the "flag" feature. The detail feature is old and well known in the art. For example, Giacalone et al, e.g., see Fig. 16 and col. 7, lines 43-52. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine Giacalone et al's "flag" feature in Sazzad et al, thereby making the claimed invention, because the proposed device is a data processing apparatus having a "flag" feature for saturation unit as claimed.

7. Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sazzad et al in view of Thayer et al.

Sazzad et al have been discussed in paragraph 3 above.

As per dependent claim 7, the claim details the "saturation instruction", i.e, "used in combination with pack instruction to enable operations to be applied in parallel to selected data values". The detail feature is old and well known in the art. For example, Thayer et al, e.g., see Fig. 9, disclose a vector ALU having the claimed feature. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine Thayer et al's "operations to be applied in parallel to selected data values" feature in Sazzad et al, thereby making the claimed invention, because the proposed device is a data processing apparatus having an "operations to be applied in parallel to selected data values" feature for saturation unit as claimed.

As per dependent claim 8, the claim details the "data processing unit is arranged prior to execution of the saturation instruction". Thayer et al 's "vector ALU" of Fig. 9

capable of providing the equivalent function. It is noted that the "distribution" of data stored in "source B register" is the same as the claimed "shift operand".

As per dependent claim 9, due to the similarity of 9 claim 9 to apparatus claim 7, it is rejected under a similar rationale.

8. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sazzad et al in view of Thayer et al. as applied to claim 9 above, and further in view of van Hook et al.

Sazzad et al and Thayer et al have been discussed. Claim 10 details the "data processing unit is arranged prior to execution of the saturation instruction" with selecting "non-adjacent multibit poritions", "optionally shifting" & "promoting" features. The detail features are old and well known in the art. For example, van Hook et al, e.g., see Fig. 8, an arithmetic operation between three source registers having different lengths. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine van Hook et al's "arithmetic operation between three source registers having different lengths" feature in Sazzad et al & Thayer et al, thereby making the claimed invention, because the proposed device is a data processing apparatus having an "operations to be applied in parallel to selected data values" and "different lengths" feature for saturation unit as claimed.

9. Claims 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sazzad et al in view of Volkonsky '661 or '307.

Sazzad et al have been discussed in paragraph 3 above.

As per dependent claims 12-13, the claim details the "mask value" feature. The detail feature is old and well known in the art. For example, Volkonsky discloses

method for handling an overflow /underflow condition in a processor using "mask value" feature. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine Volkonsky "mask value" feature in Sazzad et al, thereby making the claimed invention, because the proposed device is a data processing apparatus having a "mask value" feature for saturation unit as claimed.

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Cited references are art of interest.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tan V. Mai whose telephone number is (703) 305-9761. The examiner can normally be reached on Tue-Fri from 6:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kakali Chaki, can be reached on (703) 305-9662. The fax phone numbers for the organization where this application or proceeding is assigned are:

After-final	(703) 746-7238
Official	(703) 746-7239
Non-Official/Draft	(703) 746-7240.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Mai

TAN V. MAI
PRIMARY EXAMINER